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DILWORTH & BARRESE, LLP
333 EARLE OVINGTON BLVD.
SUITE 702
UNIONDALE, NY 11553

| EXAMINER | |
|---|---|
| D AGOSTA, STEPHEN M | |

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| 2617 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/803,649 | HUH ET AL. | |
| | Examiner | Art Unit | |
| | Stephen M. D'Agosta | 2617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,5-19,25-37 and 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-9,11-14,18,19,25,27-29,36 and 37* is/are rejected.

7)☒ Claim(s) *5,6,10,15-17,26,30-35 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 6-26-2008 have been fully considered and are persuasive for certain claims (new art has been provided to address these points).

1. The cancellation of certain claims to obviate the Statutory Double Patenting is acknowledged. Thank you.

2. The terminal disclaimer is acknowledged. Thank you.

3. The applicant argues (page 10-11) that the prior art does not reject the claims (eg. determine a forward data rate by matching the C/I with a ref. C/I based on a data rate of packet data). The examiner must give each claim its broadest reasonable interpretation and notes that he interprets this as modifying the data rate based upon a "factor" that is compared to a reference value. Clearly Lomp teaches the majority of the claim except the determining of a forward data rate and it being based upon the measured C/I as compared to the reference C/I on a data rate of packet data. The examiner put forth that Cudak teaches modifying an initial data rate (up or down) based on interference (which is similar to a C/I value) and even Gardner teaches determining a transmission rate based on forward/reverse link usages. Hence these are at least two different teachings whereby one can modify a data rate (either forward or reverse) based on a measured value. Souissi was added to show that one skilled would use a measured and reference "C/I value" whereby the lowest interference or C/I value is chosen. Hence the examiner interprets that the combination of art reads on the claim as written.

4. With regard to the applicant's argument that there is not conclusion (or motivation) to combine the prior art, he disagrees, since Lomp does not contemplate that the forward data rate can be adapted based on "..matching the measured C/I with a reference based on a data rate of the packet data". Hence the additions of Cudak and Gardner clearly show modifying the data rate based on a "factor" (eg. at least the interference condition as taught by Cudak) and that Souissi teaches just how to use the measured C/I value vs. a threshold (eg. select the lowest C/I value). Hence the

examiner believes there is motivation from the prior art that one skilled would look to a measured channel parameter (eg. C/I, SNR, errors, power, etc.) to adapt the data rate accordingly.

5. For claim 8, the applicant has mis-interpreted the examiner's rejection. He clearly states that Lomp receives "margin information" but not the specified "forward data rate" as per the claim's exact wording. Two points must be made:

a. The concept of receiving or measuring can be broadly interpreted as being the same since in both cases, the data is determined. The applicant appears to make the point that the "receiving" function is different than a "measuring" function, but the outcome is still the same, eg. the data is determined. The claim is devoid of how the data is determined (eg. does the mobile send it OR does the BTS measure/receive it). It is the examiner's interpretation that the claim is missing this highly important limitation and thus can be interpreted.

b. The prior art added to cure Lomp's deficiencies puts forth that various factors can be measured/received which can influence data rate, power, etc..

6. For claim 8, the applicant also argues that the motivation does not exist. The examiner disagrees since he states that one skilled would use the data received over the reverse link to provide means for power and data rate control (as based on the received/measured RF Channel data which can change in realtime). Lomp clearly teaches power control (Abstract) and the other prior art teach at least modifying the data rate.

7. Regarding claim 37, the applicant argues that the prior art does not properly reject the claims. The examiner disagrees:

a. With regard to the mux and demuxing functions, figure 5a shows a COMBINER (#520 – eg. mux) and a DESPREAD/DEMUX (#512). A despreader inherently infers that a spreader is used as well. Furthermore, C1, L7-20 teaches different types of multiplexing (eg. FDMA, TDMA, etc) and spreading (C1, L20-40). Lomp also discusses the concept of "decoding" throughout the patent and this requires an "encoder" inherently. THE EXAMINER HAS ADDED A NEW REFERENCE.

b. Bender is used to put forth RRI and output to a spreader. The examiner notes that there is little in the claim which "connects" the pieces in a coherent fashion such that all the limitations are linked. Until they are, the examiner only needs to find disclosure of the limitation(s) as they are defined in the claim.

8. With regard to claims 9, 28 and 36, the examiner has added new prior art and has removed Ahn.

-- The examiner notes that there is a missing gap/step with regard to these claims and has added a USC 112 rejection (eg. how or why does the constant power work into the independent claim? Where is the connection that the pilot was (or was not) using constant power before determining forward data rate? In the examiner's mind, there needs to be a "tie in" as to how or why the pilot is (or isn't) transmitting at constant power (especially when prior art shows that the pilot is typically doing that and is virtually unchanged no matter what is occurring in the network).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 9, 28 and 36** rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps/methods, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are based on the fact that there is no "tie in" as to how/why the forward pilot channel uses constant transmit power regardless of the forward data rate or margin. This just seems to be a "comment" and is not tied into the claims (eg. when would it change or not change, or why wouldn't the forward data rate/margin cause it to change/not change). The prior art of record shows that pilot signals are of constant power and don't change, hence this is a **well known** concept and would not change no matter the RF channel condition.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1-3, 7-8, 11-14, 18, 25, 27, 29 and 32** rejected under 35 U.S.C. 103(a) as being unpatentable over Lomp et al. U.S. Patent 5,991,329 and further in view of Cudak et al. U.S. Patent 6,253,063 and Souissi et al. U.S. Patent 5,850,605 and Gardner et al. US 5,857,147.

As per **claim 1 ~~and 20,~~** Lomp teaches a method for determining a forward transmission power level (abstract and C3, L15-17) in an access terminal of a mobile communication system, comprising the steps of

measuring SNR (C3, L17-19) [eg. a received carrier-to-interference ratio (C/I) of a forward pilot channel] and;

determining margin information for determining a forward transmission power level by calculating a difference between the measured SNR (eg. C/I) and the reference SNR (eg. reference C/I) if the measured C/I is not identical to the reference C/I (C3, L17-33); and

transmitting margin information over a reverse transmission channel (C3, L24-26). Lomp teaches that the mobile station selects an initial data rate for communications between the BTS and mobile and communicates this through an uplink to the BTS (abstract) and that the forward data rate is determined (C3, L1-4). Lomp compares SNR measurement to predetermined value (C3, L17-33)

**But is silent on**:

- forward data rate

- determining a forward data rate by matching the measured C/I with a reference C/I based on a data rate of packet data

- transmitting the determined forward data rate (over reverse channel/DRC)

**Cudak** teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract). This reads on determining data rate since Cudak will change the rate based on interfernce. Further to this point is **Gardner** who teaches method/apparatus for determining transmission data rate in a communication system (title) based on forward and reverse link usage (abstract).

**Souissi** teaches sending a data based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify Lomp, such that the data rate can be determined based upon comparision of the measured C/I value with a reference C/I value and then transmitting the forward data rate in the reverse channel, to provide means for power and data rate control based upon C/I levels as the mobile roams.

As per **claims 2, 12 and 27**, the combo teaches claim 1/11/25 wherein the step of determining the forward data rate comprises the steps of:

selecting a largest one of C/I thresholds that is smaller than the measured C/I stored in a C/I table as a reference C/I;

determining data rate associated with the selected reference value.

As shown above, Cudak teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract). This reads on determining data rate since Cudak will change the rate based on interfernce. Further to this point is Gardner who teaches method/apparatus for determining transmission data rate in a communication system (title) based on forward and reverse link usage (abstract).

Souissi teaches sending a data based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract).

As per **claims 3 and 13**, The combo teaches the method as claimed in claim 1/11, wherein the step of determining the margin information comprises the steps of:

calculating a difference between the reference SNR (eg. C/I) and the measured SNR (eg. C/I) [C3, L17-22];

**But is silent on:** determining margin information by converting the calculated difference into a value comprised of a predetermined number of data bits.

Cudak teaches an initial data rate between mobile and base station that is adapted to become a final data rate (eg. higher or lower) after the measurement and comparison of the interference level between mobile and base station (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the calculated difference is converted into a number of bits (and/or data rate), to provide a means of modifying the data rate based on calculated interference.

As per **claims 7 and 18**, The combo teaches the method as claimed in claim 1/11, wherein the SU sends the forward channel error as part of a reverse channel information signal [C3, L24-26] **(eg.** transmitting the determined forward data rate and margin information comprises the step of transmitting the determined forward data rate and the margin information for one slot over the reverse transmission channel).

As per **claim 8**, Lomp teaches a method for determining a forward transmission power level (abstract and C3, L15-17) in an access network of a mobile communication system, comprising the steps of

receiving the margin information over a reverse link (abstract discusses ARPC – see the bottom half of the abstract where it starts "In the ARPC system....."); decreasing the transmission power level using the received margin information and transmitting the data at the decreased transmission power level (abstract – see bottom half). Lomp teaches that the mobile station selects an initial data rate for

communications between the BTS and mobile and communicates this through an uplink to the BTS (abstract) and that the forward data rate is determined (C3, L1-4).

**But is silent on**

- a forward data rate
- receiving the forward data rate and margin information over a reverse
- creating data to be transmitted at the received data rate.

**Cudak** teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract). Also see **Gardner** as discussed above in claim 1.

**Souissi** teaches sending a message(s) based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the data rate can be transmitted based upon the received data rate and margin information over the reverse link, to provide means for power and data rate control as per control data received via the reverse link.

As per **claim 11**, Lomp teaches a method for determining forward transmission power level in a mobile communication system (abstract and C3, L15-17), comprising the steps of:

measuring, in an access terminal, an SNR (C3, L17-19) (eg. received C/I of a forward pilot channel);

determining a difference between the measured SNR (eg. C/I) and the reference SNR (eg. C/I)as margin information (C3, L17-33); and

transmitting the determined forward data rate and margin information over a reverse transmission channel (C3, L24-26); and

decreasing a transmission power level in an access network by power corresponding to the margin information (C3, L43-50). Lomp teaches that the mobile station selects an initial data rate for communications between the BTS and mobile and

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communicates this through an uplink to the BTS (abstract) and that the forward data rate is determined (C3, L1-4).

**But is silent on**:

- a forward data rate

- determining the forward data rate by matching the measured C/I with a reference C/I;

- performing forward transmission at the forward data rate at the decreased transmission power level, upon receipt of the forward data rate and margin information,.

**Cudak** teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract).

**Souissi** teaches sending data based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract). See **Gardner** above as discussed in claim 1 as well.

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the data rate can be determined based upon matching the measured C/I value with a reference C/I value and then transmitting at the forward data rate at decreased power level, to provide means for power and data rate control based upon C/I levels as the mobile roams.

As per **claim 13**, The combo teaches the method as claimed in claim 11, wherein the step of determining the margin information comprises the steps of calculating a difference between the reference SNR (eg. C/I) and the measured SNR (eg. C/I) [C3, L17-22];

**But is silent on:** determining margin information and converting the calculated difference into a value comprised of a predetermined number of data bits.

Cudak teaches an initial data rate between mobile and base station that is adapted to become a final data rate (eg. higher or lower) after the measurement and comparison of the interference level between mobile and base station (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the calculated difference is converted into a number of bits (and/or data rate), to provide a means of modifying the data rate based on calculated interference.

As per **claim 14**, The combo teaches the method as claimed in claim 11, **but is silent on** step of transmitting the determined forward data rate and margin information comprises the step of transmitting the data rate for one slot and the margin information for a next one slot over the reverse transmission channel. Lomp does teach that margin data is transmitted over the reverse channel (C3, L24-26).

Cudak teachs the base station transmitting to the mobile station the selected final data rate during a time slot (figure 2, #212) that is close in proximity to a next time slot (figure 2, #213).

It would have been obvious to one skilled in the art at the time of the invention to modify the combo, such that it comprises the step of transmitting the determined forward data rate for one slot and the margin information for a next one slot over the reverse transmission channel, to provide means for transmitting the determined rate as quickly as possible so as to convert the mobile over to the new rate.

As per **claim 25**, The combo teaches a method for determining a forward transmission power level in an access network of a mobile communication system (abstract and C3, L15-17), comprising the steps of

receiving a measured SNR (eg. C/I) over a reverse link (C3, L43-45);

determining margin information for determining the forward transmission power level by calculating a difference between the measured C/I and the reference C/I, when the measured C/I is not identical to the reference C/I (C3, L34-39); and

decreasing the transmission power level using the calculated margin information and transmitting the transmission data at the decreased transmission power level (C3, L43-50). Lomp teaches that the mobile station selects an initial data rate for

communications between the BTS and mobile and communicates this through an uplink to the BTS (abstract) and that the forward data rate is determined (C3, L1-4).

**But is silent on:**

- a forward data rate

- determining a forward data rate by matching the measured C/I with a reference C/I based on a data rate of the packet data;

- creating data to be transmitted at the determined forward data rate;

**Cudak** teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract). Also see **Gardner** as discussed in claim 1.

**Souissi** teaches sending a data based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the data rate can be determined based upon comparision of the measured C/I value with a reference C/I value and then transmitting the forward data rate in the reverse channel, to provide means for power and data rate control based upon C/I levels as the mobile roams.

As per **claim 29**, The combo teaches a method for determining a forward transmission power level in a mobile communication system (abstract and C3, L15-17), comprising the steps of

measuring, in an access terminal, a received SNR (C3, L17-19) [eg. C/I of the forward pilot channel];

transmitting the measured C/I over a reverse DRC channel (C3, L24-26)

determining margin information for determining the forward transmission power level by calculating a difference between the measured SNR (eg. C/I) and the reference SNR (eg. C/I) when the received C/I is not identical to the reference C/I (C3, L17-33); and;

decreasing the transmission power level using the calculated margin information; and transmitting the transmission data at the decreased transmission power level (C3, L43-50). Lomp teaches that the mobile station selects an initial data rate for communication between the BTS and mobile and communicates this through an uplink to the BTS (abstract) and that the forward data rate is determined (C3, L1-4).

***But is silent on***

- forward data rate

- determining, in an access network, the forward data rate by matching the measured C/I with a reference C/I associated with a data rate of packet data upon receipt of the measured C/I over a reverse link;

- creating transmission data associated with the determined data rate;

Cudak teaches modifying an initial data rate (eg. raising or lowering) based on the determined difference level of interference condition (abstract).

Souissi teaches sending a data based upon selecting a transmitter that is associated with the lowest C/I value that is chosen from the C/I values which exceed a C/I threshold value (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify The combo, such that the data rate can be determined based upon comparision of the measured C/I value with a reference C/I value, to provide means for power and data rate control based upon C/I levels as the mobile roams.

As per **claim 32**, The combo teaches the method as claimed in claim 29, wherein the SNR (eg. C/I) is transmitted over the reverse channel (C3, L24-26) and is interpreted as being sent only one (since there is no teachings about how many times it is sent) [eg. one slot of the data rate control channel, without repetition].

**Claims 9, 28 and 36** rejected under 35 U.S.C. 103(a) as being unpatentable over LCGS and further in view of Soliman.

As per **claims 9, 28 and 36**, The combo teaches the method as claimed in claim 8/25, **but is silent on** wherein a forward pilot channel transmits a signal at the constant transmission power level regardless of the forward data rate or the margin.

Soliman teaches a constant transmit power from a pilot (eg. which doesn't change and thus reads on "wherein a forward pilot channel transmits a signal at the constant transmission power level regardless of the forward data rate or the margin",

Since the pilot channel is always transmitted by base station transmitter 101 at a constant power level, the received pilot power can be used to measure the forward link transmission loss. C6, L50-65

It would have been obvious to obvious to one skilled in the art at the time of the invention to modify The combo, such that the access network transmits a signal on the forward pilot channel at a constant transmission power level regardless of the data rate or the margin, to ensure that there is no interference from a pilot signal that can have its power increased.

**Claims 37** rejected under 35 U.S.C. 103(a) as being unpatentable over LCGS and further in view of Bender US 6,556,549 and Lysejko.

As per **claims 37 ~~and 40~~**, The combo teaches teaches a transmission apparatus for mobile communication system (abstract and C3, L15-17) that measures SNR (C3, L17-19) [eg. a received carrier-to-interference ratio (C/I)] comprising;

Hardware that can multiplex, spread and encode (figure 5a, shows a combiner and Column 1 L5-20 discloses both FDMA and TDMA multiplexing, eg. multiplexers),

are discussed based on the fact that the data is for a CDMA network whereby data is coded/encoded and spreader(s) (figure 5a, shows a demux/despreader and he also discloses the term decoding in the patent which implies an encoder),

**But is silent on** reverse pilot and RRI to an output spreader and the use of TDMA multiplexers, spreaders and encoders (eg. A first multiplexer for TDM of forward data rate and margin information.

Lysejko teaches use of multiplexers and encoders/decoders for a wireless system to alleviate interference:

FIG. 17 illustrates how the central terminal performs the above interference limiting function. When incoming call data arrives at a central terminal modem 320, encoder 325 encodes the data for transmission over the wireless link 300 to the subscriber terminal 20. At the subscriber terminal 20, the decoder 326 decodes the data, and passes the decoded user data over line 328 to the subscriber telecommunications equipment. As the decoder 326 decodes the data, it is able to establish a bit error rate (BER) estimate 330 associated with the signal transmission over the wireless link 300, which can be passed to the multiplexer 332 for combining with other signals, such as those from a call control function 336 or user data on line 338, before being passed to an encoder 334. Here, the BER estimate is encoded and passed on the OMC channel over the wireless link 310 to the decoder 340 within the central terminal modem 320. Once decoded by the decoder 340, the signal passes to the multiplexer 345, where the BER estimate from the subscriber terminal is detected and passed over line 355 to the dynamic pool sizing function 360. (C24, L58 to C25, L10).

Bender teaches use of RRI (A signal indicative of the selected reverse link data rate is provided to message generator 1008. In response message generator 1008 generates a signal indicative of the selected reverse link data rate and provides the reverse rate indicator (RRI) message to multiplexer 1016. In addition, reverse link controller 1006 provides a signal indicative of the selected reverse link data rate to reverse link traffic processing element 1018 (C11, L4-11) AND The Walsh spread reverse link traffic data is provided to complex PN

spreader 1012. Multiplexer 1016 multiplexes the data rate control message and the reverse rate indicator message with pilot symbols and provides the multiplexed data to Walsh modulator 1014. Walsh modulator 1014 spreads the multiplexed data in accordance with the Walsh code zero and provides the spread data to complex PN spreader 1012 (C11, L33-40).

It would have been obvious to obvious to one skilled in the art at the time of the invention to modify the combo, such that RRI is used, to provide feedback means for the system.

***Allowable Subject Matter***

**Claims 5-6, 10, 15-17, 26, 30-35, 39 ~~and 42~~** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

These claims recite highly specific designs not found in the prior art of record.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. D'Agosta/
Primary Examiner, Art Unit 2617